

Appln. No. 10/821,170
Reply to Office action of September 19, 2005
Response dated February 21, 2006

REMARKS

This paper is filed in response to the Office Action dated September 19, 2005. A two-month extension of time for response is respectfully requested. Claims 1-26 are pending in the application. Claims 5-10 and 17-22 have been withdrawn from consideration. Claims 1-4, 11-16 and 23-26 have been rejected. Applicants have amended independent claims 1 and 15. No new matter has been added. (*See e.g., Specification paragraph 6*)

The Examiner has rejected claims 1-4, 11-16 and 23-26 under 35 U.S.C. § 103(a) as obvious U.S. Patent No. 5,891,191 to Stinson ("Stinson"). The Examiner has also rejected claims 1-4, 11-16 and 23-26 under 35 U.S.C. § 103(a) as obvious over Stinson in view of JP 2002-363675A ("JP '675"). The Examiner states that Stinson discloses that the compositions of the alloy wires are substantially homogenous and, therefore, teaches a uniform structure and concentration of Mo, as recited in the present invention. Applicants respectfully traverse the rejection.

Stinson discloses that the wires are substantially homogeneous in component concentration, *i.e.* have a uniform concentration of Co, Cr and Mo throughout the wire. (*See Stinson col. 5 lines 5-11*). Stinson does not disclose or suggest a concentration ratio of a high Mo concentration phase with respect to a low Mo concentration phase of 1.8 or less, as recited in independent claim 1. It is by optimizing the *concentration ratio of low Mo concentration phase and high Mo concentration phase* that a wire with excellent ductility and processability is obtained (*See Specification paragraphs 14 and 18*). Neither Stinson nor JP '675 disclose or suggest optimizing the concentration ratio of low Mo concentration phase and high Mo concentration phase.

TECH/400118.1

Appln. No. 10/821,170
Reply to Office action of September 19, 2005
Response dated February 21, 2006

Moreover, as amended, the presently claimed invention recites that the content of Mo is more than 8 weight % to 16 weight %. In addition, the presently claimed invention recites that the concentration ratio of Mo is 1.8 or less. If the Mo content is large, the concentration ratio of Mo will also be large.

Furthermore, simply providing an alloy product with components in the claimed concentration ranges will not result in an alloy wire as disclosed in the present invention. For example, Manufacturing Example 3 discloses a composition in which the component concentration ranges are within the claimed ranges, but do not provide a wire with a ratio of high Mo concentration phase to low Mo concentration phase as required by independent claim 1. Accordingly, Stinson alone or in combination with JP '675 does not disclose or suggest an alloy wire as recited in the present invention.

Stinson also does not show that contents of Ni and C are zero and that segregation of Mo at 8 % Mo content can be prevented, whereby breakage of a wire in drawing and bending can be prevented. In contrast, in the present invention, contents of Ni and C are zero except for Ni and C as inevitable impurities.

JP '675 discloses a Co based alloy containing 6 to 12% of Mo. However, JP '675 fails to teach uniform concentration of Mo. Therefore, the present invention would not be made even if the Mo content of JP '675 is applied to Stinson. As disclosed in the specification, "[a]s a result of investigation into the causes, as the fine wire increases in thickness, there are evidently high Mo concentration phases and low phases, which are found to be causes of poor ductility." (See Specification paragraphs 11). Thus, the present claimed invention restricts the concentration ratio of Mo to be 1.8 or less. Therefore, even

Appln. No. 10/821,170
Reply to Office action of September 19, 2005
Response dated February 21, 2006

if the Mo content of Stinson is set in the claimed range, there is no motivation to establish the concentration ratio of Mo to be 1.8 or less.

Regarding claim 15, the Examiner states "products of identical chemical composition can not have mutually exclusive properties." However, as mentioned above, Stinson does not have the same composition as that of the present invention. Even if Stinson had the same composition, the characteristics and structure of a wire inherently vary according to cooling rate in solidification and temperature history such as heat treatment. Moreover, even if Mo concentration is uniform, structure including average grain size varies. Indeed, the specification discloses that deterioration of flexibility is likely to occur due to precipitation of an unknown phase except for gamma phase and epsilon phase promoted by uneven concentration of Mo. Uneven concentration of Mo is promoted by high content of Mo. (See Specification paragraphs 29).

Since Neither Stinson nor JP '675 teach or suggest the above finding, even if the Mo content in Stinson is set at the same range as that of the invention, there is no motivation to make the internal structure to be substantially composed of either gamma phase (Co base solid solution of face-centered cubic system) or epsilon phase (Co base solid solution of hexagonal close-packed system) only, or both of them only.

Therefore, for at least these reasons, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-4, 11-16 and 23-26 under 35 U.S.C. § 103(a) as obvious in view of Stinson alone, or in combination with JP '675.

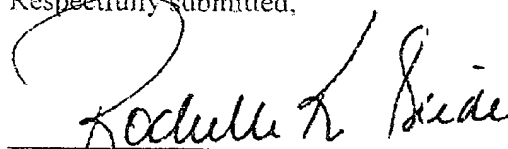
In view of the foregoing remarks and amendments, reconsideration and allowance of the pending claims is respectfully requested.

TECH/400118.1

Appln. No. 10/821,170
Reply to Office action of September 19, 2005
Response dated February 21, 2006

A two-month extension of time for response is requested. Payment of the extension fee is to be made according to the Credit Card Payment Form attached herewith. Applicants believe that no additional fees are required in connection with this response. However, if additional fees are required, the Commissioner is hereby authorized to charge any additional payment, or credit any overpayment, to Deposit Account No. 01-2300, **referencing Docket Number 108421.00096.**

Respectfully submitted,



Rochelle K. Seide, Ph.D.
Registration No. 32,300
ARENT FOX PLLC
1675 Broadway
New York, NY 10019
Tel. No. (212) 484-3945
Fax No. (212) 484-3990
Customer No. 38485